

REMARKS

I. OBJECTIONS

A. Applicants' Proposed Correction to Figure 1 Clarifies Applicants' Original Disclosure.

As requested by the Examiner (Action at ¶2), Applicants submit a proposed correction to Figure 1 in order to reference the web of claim 23. The original specification discloses that the web may (but need not) comprise the same material as a substrate having a negative bar code image (6:29-7:10, 12:31-34),¹ which is identified in original Figure 1. The proposed correction to Figure 1 identifies the web with the substrate. Because the proposed correction clarifies Applicants' original disclosure, no new matter has been added. *See* MPEP §§ 2163.06 and 2163.07 (8th ed., rev. 1).

Similarly, no new matter has been added with respect to the corresponding amendment to the specification (*i.e.*, stating that the web is shown generally as reference number 100) because that amendment conforms the specification to the original Figure 1, thus clarifying Applicants' original disclosure. *Id.* Applicants thus submit that the objection to the drawings has been obviated and respectfully request the Examiner's approval of the proposed correction to Figure 1, as well as entry of the corresponding amendment to the specification.

B. The Amended Abstract is in Accord with the Examiner's Request.

The Abstract has been amended to substitute "includes" for "provides," as per the Examiner's request (Action at ¶3). Applicants submit that the objection has been obviated and respectfully request entry of the amendment.

¹ Citations are to column and line numbers separated by a colon, except in the case of Applicants' original disclosure where the citation is to page and line numbers separated by colon.

C. All Limitations of Amended Claim 11 Have a Proper Antecedent Basis, Obviating the Examiner's Objection.

The Examiner objected to the limitation "the thermoplastic polymer or the thermoset polymer" of claim 11 as lacking antecedent basis (Action at ¶4). To correct a typographical error, Applicants have amended claim 11 to depend from claim 10, rather than claim 1, thus establishing a proper antecedent basis for all limitations of claim 11. Because the Examiner's objection has been obviated, Applicants respectfully request withdrawal of same.

D. Amended Table 7 Corrects a Typographical Error.

Although not objected to, Table 7 has been amended to correct a typographical error in the cell located in the last row and column. As shown earlier in the same row, the correct number of samples in the "Abbott" group is 100. The corrected error of 300 represents the number of samples in the "Baxter" group, as shown in the row above the corrected cell. The requested amendment thus clarifies Applicants' original disclosure and adds no new matter.

II. REJECTIONS

The Examiner cites the following United States Patents in the Action, which are referred to below by the surname of the first-named inventor.

PATENT NUMBER	FIRST-NAMED INVENTOR		PATENT NUMBER	FIRST-NAMED INVENTOR
4,559,872	Perra, Jr.		5,514,123	Adolf
4,884,904	Berquist		6,267,291	Blankenship
4,983,817	Dolash		6,297,322	Ding
5,237,164	Takada		6,408,286	Heiden
5,319,182	Havens			

A. The Combination of Takada and Heiden Cannot Render Claims 1, 2, 6 and 15 Obvious Because Heiden Is Not an Analogous Prior Art Reference.

Claims 1, 2, 6 and 15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takada in view of Heiden. However, the combination of Takada and Heiden is improper because Heiden is not an analogous prior art reference and thus cannot be relied upon for a § 103(a) rejection. *See* MPEP § 2141.01(a). To be “analogous” prior art, Heiden must be (1) within Applicants’ field of endeavor or (2) reasonably pertinent to the particular problem with which they were concerned. *Id.* Heiden does not satisfy either prong.

1. Heiden is Outside Applicants’ Field of Endeavor.

A reference is not within an applicant’s field of endeavor simply because similar subject matter (*e.g.*, a bar code) may be described, particularly where there are differences in structure and function between the apparatus disclosed in the asserted prior art reference and the claimed invention. *See* MPEP § 2141.01(a). Moreover, the asserted reference and the claimed invention must each be considered as a whole. *Id.* at §§ 2141 and 2141.02.

Heiden describes its field of endeavor as relating “generally to postage printing systems” (1:24-25). The structure of the postage system includes at least a data center in network communication (*e.g.*, LAN, WAN, etc.) with a plurality of computers (3:48-50, 4:53-58). The function of Heiden’s invention is to place “coupons on envelopes in a more effective manner so third party advertisers are more likely to reach their target audiences” (3:24-26). In other words, the postage system brokers the advertising space on envelopes (3:20-22) and “improves the ability of third party advertisers [to] more efficiently reach their target audience through advertising on envelopes” (10:1-3).

There are only two disclosures within Heiden that relate, albeit remotely, the postage system to bar codes. First, the coupon that the postage system prints on an envelope may include a bar code (3:41-44, 10:31-35). Second, the postal indicium or evidence of postage (1:33-34) contains variable information that may, in part, be represented by a bar code (5:22-34).² The bar code is simply one example of “any format” that may be used (5:32-34). Heiden does not disclose how to form a bar code, of what material the bar code is made, or what types of bar codes may be used for the variable data. This is because neither the structure nor the function of Heiden’s postage system is related to bar codes, as “any format” of data representation may be used.

In contrast, the structure of Applicants’ inventions of claims 1, 2, 6 and 15 include a plurality of light-reflecting segments disposed on a substrate. The light-reflecting segments function with light-absorbing segments of the substrate to define a bar code. The bar code functions to encode fixed and variable information. None of the structures recited in Applicants’

² This is best understood in recognizing that the “verification data” is assigned the same reference number as “other data,” which comprises part of the variable data in the postal indicium (5:22-34).

claims require -- unlike Heiden -- a data center, a communication network or a plurality of computers. In further contrast to Heiden, Applicants' claims do not function to broker coupons or space on envelopes.

Though Heiden discloses that part of the variable data in a postal indicium may be represented as a bar code, that *de minimus* disclosure does not qualify Heiden as within an art analogous to Applicants' claimed invention. To illustrate, over nine hundred United States Patents have issued thus far in 2003 alone that disclose "bar code" in the specification.³ That minimal disclosure, without more, is insufficient to qualify those patents as within an art that is analogous to Applicants' claimed invention.

To consider Heiden as within an analogous art is no different than reasoning that the countless patents that minimally disclose a bar code, as well as the nearly infinite number of products that are labeled with -- but unrelated to the art of -- bar codes, are within an art analogous to Applicants' claimed invention. Such reasoning, however, results in a limitless prior art, which is prohibited because the scope of the prior art must have defined boundaries when determining obviousness. See MPEP §§ 2141, 2141.01 and 2141.01(a). Thus, when Heiden is properly considered as a whole and not specifically for its thread-like disclosure of bar codes, Heiden's field of endeavor is shown to be postage printing systems and not within an art that is analogous to Applicants' claimed invention.

2. Heiden is Not Reasonably Pertinent to the Problem Applicants Solved.

A reference is reasonably pertinent to the particular problem with which an applicant was concerned if the reference "logically would have commended itself to an inventor's attention in

³ Our search of the USPTO database shows that 918 such patents issued from January 1, 2003 through July 1, 2003.

considering his problem.” MPEP § 2141.01(a) (citations omitted). The threshold inquiry is whether the applicant “would reasonably be expected or motivated to look to [the reference].” *Id.*

As applied to this case, Heiden and Applicants’ claimed invention solved completely different problems. Heiden solved problems related to the distribution of coupons printed on envelopes, particularly problems associated with the coupons’ time sensitivity, printing volume, recipient, and scope of geographic dissemination (2:37-3:8). Applicants, on the other hand, solved the problem of encoding fixed and variable information into a bar code and onto a substrate, preferably (though not required) where the substrate defines a part of the bar code. The particular problems that the Applicants solved relate to the bar code itself, such as its edge definition, volume of ink consumed, ease of changing the variable information, and the number of printing passes and area required for detection, among others (3:18-4:27). In general terms, Heiden solved problems associated with a product’s *distribution* while Applicants solved problems in the product itself.

Applicants could not reasonably have been expected or motivated to look to Heiden in solving problems related to bar codes because, as detailed above, Heiden has virtually nothing to do with bar codes and solves no problem related to bar codes. Because Heiden relates, instead, to a postage system for brokering coupons on envelopes and to the improved distribution of those coupons, Heiden simply would not have commended itself to Applicants’ attention. Therefore, Heiden is not an analogous prior art reference and its combination with Takada to reject Applicants’ claims under § 103(a) was improper. Applicants, accordingly, respectfully request that the § 103(a) rejection of claims 1, 2, 6 and 15 be withdrawn and that those same claims be allowed to issue.

B. The Combination of Heiden and Takada Does Not Establish a *Prima Facie* Case of Obviousness.

Even if Heiden were an analogous prior art reference, its combination with Takada does not establish a *prima facie* case of obviousness. To establish such a case, three criteria must be met: (1) there must be a suggestion or motivation to combine the references, (2) there must be a reasonable expectation of success, and (3) the proffered combination must teach or suggest all of the claim limitations. MPEP § 2143. We begin with the second criterion first.

1. Because The Proffered Combination Teaches Away From Applicants' Invention, There is No Reasonable Expectation of Success.

When attempting to satisfy the above-identified criteria, the Examiner must consider the asserted prior art references as a whole, including their disclosures that teach away from Applicants' claimed invention. *Id.*; see also MPEP §§ 2141.02 and 2145. In this case, the combination of Heiden and Takada teaches away from Applicants' invention of a bar code having fixed and variable information.

As cited by the Examiner, Heiden teaches a postal indicium having fixed and variable data but does not teach bar codes (Action at ¶6 citing Heiden at 5:12-20). Takada teaches a bar code, including a negative image bar code, but does not teach that the bar code may contain fixed and variable information (Action at ¶6 citing Takada at 5:38-55 and figure 4). The Examiner thus argues that the combination of Heiden and Takada is obvious for providing a bar code having fixed information, as well as variable information that can be "updated periodically" (Action at ¶6). The Examiner's argument, however, fails to consider those portions of Takada that teach away from a bar code having variable information.

For example, Takada discloses that its bar codes are made from a retroreflective material such as "glass beads, plastic beads, micro-prisms, fly-eye lens or the like" (1:64-67). The bar

codes are formed by selectively heating and distorting the retroreflective material in response to the information to be recorded in the bar code (3:41-44). Specifically, the retroreflective material is "selectively heated and pressed to thereby selectively crush the retroreflective elements . . . thus forming non-retroreflective portions" so that the bar code can be detected (10:10-11). This process affords a bar code where "the life span of the information recorded [in the bar code] is long" (3:12-14; *see also* 12:10-11). Finally, the bar code contains information that generally remains unchanged or fixed, such as an employee's name and employee number (4:53-56).

If the material used to form the bar code is -- as Takada teaches -- heated, distorted and crushed, then there is no reasonable expectation of success for a bar code that can be "updated periodically," as reasoned by the Examiner. Glass and plastic beads, micro-prisms, and fly-eye lenses simply do not exhibit the necessary resilience after being heated, distorted and crushed that would permit a bar code made from those materials to be changed to represent new information. Thus, a bar code formed from these materials would not reasonably be expected to contain variable information that could be "updated periodically." This is especially true when one considers that Takada also teaches that its bar code has a long life span and represents fixed information.

Accordingly, because Takada teaches away from a bar code having variable information, there is no reasonable expectation of success for the combination of Takada and Heiden to produce a bar code having fixed and variable information. The combination thus does not render Applicants' claimed invention obvious.

2. There is No Suggestion or Motivation to Combine Takada and Heiden.

The teaching or suggestion to combine Takada and Heiden must be found within the prior art, and not in Applicants' disclosure. MPEP § 2143. If there is no motivation to make the proffered combination, then a *prima facie* case of obviousness has not been made, even if the combination teaches all the limitations of the Applicants' invention. *Id.* at § 2143.01. In determining the propriety of an obviousness rejection, it is necessary to ascertain whether the teachings of the asserted prior art references are sufficient for making the proposed substitution, combination or other modification. *Id.*

As detailed above, Takada teaches a bar code having only fixed information while Heiden discloses a postal indicium having variable information. The Examiner combines these references, even though the prior art does not suggest that bar codes and postal indicia are within analogous arts. In fact, as detailed above, Heiden relates to postage printing systems, not bar codes. Moreover, because Takada teaches that its bar codes are formed in a process that involves heating, distorting and crushing the material used to make the bar code, such bar codes cannot reasonably be expected to contain variable information.

In other words, even if the variable information as taught by Heiden were included in a bar code as taught by Takada, the resulting bar code would contain only fixed information because the information in the bar code could not be updated periodically. Thus, the combined teachings of Takada and Heiden are not sufficient for making the proposed combination or modification to arrive at Applicants' claimed invention, meaning that a *prima facie* case of obviousness has not been established.

3. The Proffered Combination Does Not Teach All of the Limitations of Applicants' Claimed Invention.

All of the claim limitations must be taught or suggested by the prior art. MPEP §§ 2143 and 2143.03. In this case, the combination of Takada and Heiden does not teach a bar code having fixed and variable information because, as discussed above, the bar code disclosed in Takada cannot reasonably be expected to contain variable information. Because the combination of Takada and Heiden does not teach at least one limitation in Applicants' claims 1, 2, 6 and 15, the § 103(a) rejection of those claims based on that combination was improper and should be withdrawn.

C. Claims 3-5 Are Nonobvious Because They Ultimately Depend From Claim 1, Which is a Nonobvious, Independent Claim.

Claims 3-5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takada in view of Heiden and in further view of Dolash (Action at ¶7). Because these claims depend from claim 2, the Examiner applied the combination of Takada and Heiden to claims 3-5, as was done with respect to claim 2. Applicants similarly incorporate their above arguments that Heiden is not an analogous prior art reference, and thus cannot be relied upon for a proper § 103(a) rejection of claims 3-5.

Moreover, claim 2 depends from claim 1, meaning that claims 3-5 ultimately depend from claim 1. As argued above, claim 1 is a nonobvious, independent claim because the § 103(a) rejection of that claim was improper. Thus, because claims 3-5 depend from claim 1, then those claims, too, are nonobvious. *See* MPEP § 2143.03.

D. Claims 7-11 Are Nonobvious Because They Ultimately Depend From Claim 1, Which is a Nonobvious, Independent Claim.

Claims 7-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Takada and Heiden, as applied to claim 1, but with the following, additional references further applied: Blankenship with respect to claim 7; Perra, Jr. with respect to claim 8; and Adolf with respect to claims 9-11 (Action at ¶¶8-10). But like claims 3-5, claims 7-11 also depend from claim 1. Thus, for the same reasons applied above to claims 3-5 with respect to Heiden not being an analogous prior art reference and that a claim depending from a nonobvious, independent claim is likewise nonobvious, Applicants submit that the Examiner's rejection of claims 7-11 under § 103(a) was improper and should be withdrawn.

E. Claims 9-11, 14, 16-22, 25-27 and 29-32 Are Nonobvious Because Adolf is Not an Analogous Prior Art Reference and Because the Only Motivation to Combine Adolf, Heiden and Takada Is Found in the Applicants' Disclosure.

Like Heiden, Adolf is not an analogous prior art reference with respect to Applicants' claims 9-11, 14, 16-22, 25-27 and 29-32. Adolf's field of endeavor is the sterile forming, filling and sealing of flexible solution containers, more particularly those containers having a port attachment (1:12-21). Adolf's field is unrelated to bar codes, as is evidenced by the Examiner's reliance on Adolf only for its disclosure that flexible, pouch-type containers may be used to store medical solutions (Action at ¶10, *citing* Adolf 1:34-36).

But, as was discussed above with respect to Heiden, a reference is not within an analogous art merely because it may describe subject matter that is common to Applicants' claimed invention. Because Adolf is devoid of any discussion relating to bar codes, including on what kinds and types of substrates a bar code may be disposed, Applicants would not have

looked, nor should have been expected to look, to Adolf in developing their claimed inventions. In short, Adolf is not within Applicants' field of endeavor.

Nor is Adolf reasonably pertinent to the particular problem with which the Applicants were concerned. Adolf was concerned with developing a medical solution container that could be sterilely connected to a leakproof delivery system (1:34-41) while also having high gas barrier properties (2:6-10, 3:25-30). Adolf was not concerned, even tangentially, with bar codes. Applicants, on the other hand, were concerned directly with bar codes, particularly a bar code having fixed and variable information (4:38-5:2). Thus, Adolf, like Heiden, solves different problems than Applicants' claimed invention, as well as has an entirely different purpose. For these reasons, Adolf is not an analogous prior art reference, and its combination with Takada and Heiden to reject Applicants' claims 9-11, 14, 16-22, 25-27 and 29-32 under § 103(a) was improper.

Even assuming that Heiden and Adolf are analogous prior art references, and further assuming that the combination of Takada, Heiden and Adolf was proper, a *prima facie* case of obviousness still has not been established. Of these three references, Takada is the only one that is related to bar codes. The Examiner combines Takada with Heiden and Adolf to reason that it would have been obvious to encode a medical solution container with a negative bar code image having fixed and variable information (Action at ¶10). First, there is no suggestion or motivation within the cited references to combine them. This is expected because only Takada relates to bar codes and nothing within that reference suggests encoding medical containers.

Second, and more importantly, the combination suggests that only cards (Takada) and envelopes (Heiden) may be encoded. In other words, the Examiner's reasoning permits Takada and Heiden to be combined with any prior art reference that discloses any "substrate" such that it

would have been obvious to encode that substrate with a bar code having fixed and variable information. This means that the requisite motivation to combine Takada, Heiden and Adolf to arrive at Applicants' invention comes, not from the prior art, but from an impermissible source: the Applicants' disclosure. See MPEP §§ 2143 and 2143.01. For at least this reason, a *prima facie* case of obviousness has not been established with respect to Applicants' claims 9-11, 14, 16-22, 25-27 and 29-32, and the § 103(a) rejection of those claims was improper and should be withdrawn.

F. Because of the Common Ownership of Claims 12-13 and the Ding Reference, the § 103(a) Rejection of Those Claims Should Be Withdrawn Pursuant to 35 U.S.C. § 103(c).

Claims 12 and 13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takada and Heiden in view of Adolf, as applied to claim 11, and in further view of Ding (Action at ¶11). Applicants incorporate herein their above arguments as to the improper combination of Takada, Heiden and Adolf. Moreover, the undersigned states that the § 103(a) rejection of claims 12 and 13 should be withdrawn pursuant to 35 U.S.C. § 103(c) because, at the time of Applicants' invention, Ding and claims 12 and 13 had, or were subject to an obligation of assignment to, a common assignee -- Baxter International Inc.⁴ See 35 U.S.C. § 103(c).

G. The § 103(a) Rejection of Claims 23 and 24 Was Improper Because, As Discussed Above, Heiden Is Not an Analogous Prior Art Reference.

Claims 23 and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Takada and Heiden and in further view of Berquist (Action at ¶12). For the same reasons discussed above with respect to claim 1, Heiden is not an analogous prior art reference. Heiden

⁴ According to the Official Gazette Notice 1241 OG 96 (Dec. 26, 2000), the undersigned's statement, as one of the attorneys of record, is sufficient evidence of the common ownership.

thus cannot be properly combined with Takada and Berquist to reject claims 23 and 24 under § 103(a). For at least this reason, Applicants respectfully request that the rejection of these claims be withdrawn and the same claims allowed to issue.

H. The § 103(a) Rejection of Claim 28 Was Improper Because Neither Heiden Nor Adolf Is An Analogous Prior Art Reference, and Because the Proffered Combination Teaches Away From the Claimed Invention.

Claim 28 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Takada, Heiden and Adolf and in further view of Havens (Action at ¶13). For the same reasons discussed above, neither Heiden nor Adolf is an analogous prior art reference. Thus, neither Heiden nor Adolf can be properly combined with Takada and Havens to reject claim 28 under § 103(a).

But even if this combination were proper, it teaches away from Applicants' claimed invention. The Examiner reasons that it would have been obvious to integrate the teachings of Havens, where an adhesive flows over the bar code symbol, with Takada, Heiden and Adolf in order to arrive at Applicants' claimed invention (Action at ¶13). This reasoning, however, impermissibly excludes those portions of Havens that teach away from Applicants' invention. See MPEP § 2141.02.

For example, as cited by the Examiner, Havens teaches that an adhesive flows over a bar code symbol to produce a laminated bar code (Action at ¶13 *citing* Havens at 2:33-34). But Havens also teaches that such a code reflects light internally at the laminate-to-air interface to produce what is known as a laminate or overlay effect (2:27-30, figure 14). More importantly, Havens also teaches that:

- “[a]nother **undesired effect** of flood illumination in certain imaging applications, such as bar code scanning, is the laminate effect, also known as the overlay effect” (2:23-25); and that

- “[t]he laminate and diffusion effects are known to degrade the performance of bar code scanners, other types of mark-sense detectors, and image detecting apparatus generally. A laminated bar code symbol typically exhibits both the diffusion and the laminate effects” (2:59-64) (emphasis added).

Thus, while Havens discloses a laminated bar code, it also teaches that such a bar code has its image undesirably distorted so as to degrade its detectability. In other words, Havens teaches away from a bar code having a laminate or a material positioned over it and thus away from Applicants’ invention of claim 28.⁵ For the above reasons, Applicants submit that the § 103(a) rejection of claim 28 was improper and should be withdrawn.

II. CONCLUSION

As shown above, the requested amendments to the specification and the correction to Figure 1 do not add any new matter because they clarify the Applicants’ original disclosure. Further, the Examiner’s reliance of Heiden and Adolf to reject Applicants’ claims was improper because neither of these references is within an analogous art. Even if the Examiner’s combination of Heiden and Adolf with Takada were proper, the only motivation to arrive at Applicants’ invention comes from Applicants’ disclosure, meaning that a *prima facie* case of obviousness has not been made.

Finally, the Examiner did not consider that the combination of Takada, Heiden, Adolf and Havens teaches away from Applicants’ claimed invention. For at least these reasons, and

⁵ Assuming, for only the sake of the present argument, that the laminated bar code described in Havens and cited by the Examiner is the same as Applicants’ claim 28.

those described in detail above, Applicants respectfully request that the Examiner withdraw the objections and rejections of the pending claims and allow those same claims to issue.

Respectfully submitted,

Dated: July 01, 2003

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